

NASA TECH BRIEF

Goddard Space Flight Center



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Tracking Antenna Deformation Program

The problem:

To provide the capability for analyzing accelerometer data obtained from impulsive testing of large antennas, and of determining from that data pertinent characteristics (amplitude, frequency, damping) of the structural modes excited by the impulse.

The solution:

A computer technique for determining modal characteristics of a linear structure excited by an impulse.

How it's done:

The program employs the Fast Fourier Transform to determine the structure response function referenced to the point on the structure where motion is measured. The program examines the imaginary portion of the response function by employing an iterative technique that, in the limit, permits examining that portion of the response function which represents the response contribution from each of the separate modes that respond to the impulse.

Notes:

1. This program is written in FORTRAN (90%) and ASSEMBLER (10%) languages for the IBM-360 or XDS-Sigma V computers.
2. For further information contact:
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Reference: B71-10017

Patent status:

No patent action is contemplated by NASA.

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